

REMARKS/ARGUMENTS

Brief Summary of Status

Claims 1-13, 23-38, and 64-80 are pending in the application.

Claims 64-80 are allowed.

Claims 1-5, 8-10, 13-32, 34-38 are rejected.

Claims 6, 7, 11, 12, and 33 are objected to.

35 U.S.C. § 103

The Examiner asserts:

"4. Claims 1-3, 9, 23-24, 27, 28-29, 32, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (US 2004/0162037 A1) in view of Vaisanen et al (US 2004/0192222 A1) and further in view of Gorday et al (US 2004/0203836 A1) and still further in view of Jaffe et al (US 200310231720 A1)." (office action, Part of Paper No./Mail Date 20080901, p. 2)

The Applicant respectfully traverses.

In the office action on page 11, the Examiner asserts:

"In response to applicant's arguments that there are a number of hardware components in claim 1, it is noted that the features upon which the applicant relies (e.g., "hardware components", "selecting a hardware component") are not cited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *See in re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)"

The Applicant respectfully asserts that the Examiner's characterization is incorrect.

The Applicant has used the terminology of "a number of hardware components (i.e., plurality of PHY (physical layer) receivers)" and "selecting a hardware component (i.e., an intended PHY receiver)" to show that, while each of the PHY receivers perform pre-processing of the received frame to calculate a confidence level indicating whether the received frame is intended for that PHY receiver, it is only the intended PHY receiver that processes the received frame.

The Applicant respectfully points out that one having skill in the art to which the invention pertains, when considering subject matter included within the Applicant's originally filed specification (including figures and written description), would understand and comprehend that the Applicant's "intended PHY receiver" is one hardware component of a "plurality of PHY receivers" (i.e., a plurality of hardware components) in accordance with the subject matter as claimed by the Applicant.

The Applicant respectfully believes that the Applicant clearly associated the "plurality of PHY (physical layer) receivers" and the "intended PHY receiver" as being the "number of hardware components" and the "selected hardware component," respectively, in an earlier filed response.

Moreover, the terms of "plurality of PHY (physical layer) receivers" and the "intended PHY receiver" are both explicitly recited within the Applicant's claimed subject matter in each of the independent claims 1, 23, and 28.

Considering independent claim 1, the Applicant claims subject matter including "a plurality of PHY (physical layer) receivers", and these "plurality of PHY (physical layer) receivers" are in fact hardware components. Moreover, while "each PHY receiver of the plurality of PHY receivers performs pre-processing of the received frame to calculate a confidence level indicating whether the received frame is intended for that PHY receiver" in accordance with the subject matter as claimed by the Applicant, only one of these "plurality of PHY (physical layer) receivers" actually processes the received frame (i.e., "the intended PHY receiver processes the received frame").

Clearly, this is one PHY receiver (i.e., the "intended PHY receiver", which is one hardware component) of "a plurality of PHY (physical layer) receivers" (i.e., of a plurality of hardware components) that actually processed the received frame (i.e., clearly "the received frame" of Applicant's claimed subject matter includes the entirety of the received frame).

The Applicant respectfully points out that one having skill in the art to which the invention pertains, when considering subject matter included within the Applicant's originally filed specification (including figures and written description), would understand and comprehend that the Applicant claims subject matter including the intended PHY receiver is the one PHY receiver that actually processes the received

frame. The Applicant's claimed pre-processing (i.e., that is performed by each of the PHY receivers) is to calculate a confidence level indicating whether the received frame is intended for that PHY receiver.

In contradistinction, as the Examiner explicitly asserts on page 12 of the office action, "Jaffe discloses the preprocessing of a signal element so that the best channel can be selected." (emphasis added)

This "the best channel" of Jaffe is not an intended PHY receiver or any hardware component; it is a part of a signal.

The Applicant respectfully points out that Jaffe explicitly teaches and discloses that a sub-channel is a part of a signal (i.e., one portion of the signal received from the communication channel) (see Jaffe's ABSTRACT, "A soft symbol decision stream is arranged into a number of sub-channels" and "Only the subchannel that includes these soft symbol blocks, destined for this communication receiver, need be decoded.", (emphasis added)).

Therefore, this "Selected Sub-channel" of Jaffe is not an intended PHY receiver of a plurality of PHY receivers in accordance with the subject matter as claimed by the Applicant.

In contradistinction, the "Selected Sub-channel" of Jaffe is a portion of a signal, and it is the only portion that includes any information that "need be decoded" or processed. Clearly, the signal includes all of the "soft symbol blocks", and each of the "soft symbol blocks" are assigned to their respective sub-channel channels in Jaffe; not all of the "soft symbol blocks" get decoded or processed, but only those "destined for this communication receiver, need be decoded."

As can be seen in Jaffe's FIG. 11, only the "Selected Sub-channel" is the one that gets processed. In other words, only a portion of the signal "Soft Symbol Decision Stream" (i.e., the "Selected Sub-channel" thereof) is what actually gets fully decoded/processed. As can be seen in Jaffe's FIG. 11, the "Non-selected Sub-channels" are discarded by the PHY Sub-Channel Selection functional block (i.e., the "Non-selected Sub-channels" never get processed). Clearly, if these "Non-selected Sub-channels" (which are clearly part of the received signal) are discarded, then they do not ever get processed.

The Applicant respectfully points out that the “Selected Sub-channel” in Jaffe is a portion of a signal, and not any “intended PHY receiver” in accordance with the subject matter as claimed by the Applicant.

Furthermore, the Examiner-cited paragraphs 71-72 of Jaffe explicitly teach and disclose that “The FEC processing functional block performs the actual decoding of stream of soft symbol decisions provided by the receiver pre-processing functional block that have been selected and assigned to a sub-channel within the PHY sub-channel selection functional block.” (emphasis added)

In other words, only the “soft symbol decisions” that “have been selected and assigned to a sub-channel within the PHY sub-channel selection functional block” undergo any “actual decoding” or processing.

The Applicant respectfully points out that one having skill in the art to which the invention pertains, when considering the Examiner-cited portions of Jaffe, would understand and comprehend that Jaffe performs pre-processing of a signal to generate “a stream of symbol decisions” and that only a sub-channel thereof (i.e., only the portion “selected and assigned to a sub-channel within the PHY sub-channel selection functional block”) gets decoded/processed.

The Applicant respectfully points out that one having skill in the art to which the invention pertains, when considering subject matter included within the Applicant’s originally filed specification (including figures and written description), would understand and comprehend that the Applicant claims subject matter in which each PHY receiver of the plurality of PHY receivers performs pre-processing of the received frame to calculate a confidence level indicating whether the received frame is intended for that PHY receiver; and the intended PHY receiver processes the received frame.

The Applicant’s claimed subject matter may be viewed as all (i.e., “each”) of the plurality of PHY receivers performs pre-processing of the received frame; and the intended PHY receiver is the one PHY receiver that actually processes the received frame.

In contradistinction, as in Jaffe’s FIG. 11, Jaffe performs pre-processing of a signal received from a communication channel to select only the “Selected Sub-channel” of a signal (i.e., which is a portion of the signal), and discards the “Non-selected Sub-

channels”. Clearly, only the “Selected Sub-channel” actually gets processed/decoded. The discarded “Non-selected Sub-channels” do not get processed/decoded.

The Applicant respectfully points out that pre-processing a signal to select a “Selected Sub-channel” of that signal to be decoded/processed (e.g., in accordance with Jaffe) is different than each PHY receiver of a plurality of PHY receivers performs pre-processing of the received frame; and the intended PHY receiver is the one PHY receiver that actually processes the received frame in accordance with the subject matter as claimed by the Applicant.

Jaffe’s pre-processing is used to select a portion of a signal (i.e., “Selected Sub-channel”) to be decoded/processed by the “forward error correction (FEC) processing functional block.”

The Applicant’s claimed pre-processing, as performed by each PHY receiver of the plurality of PHY receivers, is used so that only an intended PHY receiver (i.e., which is one of a plurality of PHY receivers) is the one PHY receiver that actually processes the received frame.

The Applicant’s intended PHY receiver doesn’t process only a “Selected Sub-channel” of the received frame. In contradistinction, the Applicant’s intended PHY receiver processes the received frame (e.g., and not only a portion thereof).

The Applicant respectfully points out that one having skill in the art to which the invention pertains would properly comprehend the difference and distinction between pre-processing a signal using one functional block (i.e., “Receiver Pre-processing” functional block in Jaffe’s FIG. 11) to select a portion of that signal (i.e., “Selected Sub-channel”) to be decoded/processed (i.e., Jaffe) by another functional block (i.e., “forward error correction (FEC) processing functional block”) vs. employing each PHY receiver of the plurality of PHY receivers to perform pre-processing of the received frame so that only the intended PHY receiver processes the received frame in accordance with the subject matter as claimed by the Applicant.

Again, Jaffe only decodes/processes a portion of the signal (i.e., “Selected Sub-channel”) received from the communication channel, the Applicant claims subject matter in which “the intended PHY receiver processes the received frame” and not only a portion thereof.

Moreover, the Applicant's intended PHY receiver of the Applicant's is one of the plurality of PHY receivers that performs the pre-processing, and the Applicant's intended PHY receiver also processes the received frame. Therefore, the Applicant claims subject matter in which the same intended PHY receiver that processes the received frame is one of the plurality of PHY receivers that earlier performs the pre-processing. In other words, the intended PHY receiver performs both the pre-processing of the received frame to calculate its corresponding confidence level and the processing of the received frame.

At a minimum, Jaffe employs (1) a first functional block to select a "Selected Sub-channel" (e.g., "PHY Sub-Channel Selection" functional block in FIG. 11 and "Header Processor" in FIG. 12) and (2) a second functional block that actually decodes/processing the "Selected Sub-channel" (e.g., "FEC processing functional block performs the actual decoding of stream of soft symbol decisions provided by the receiver pre-processing functional block that have been selected and assigned to a sub-channel within the PHY sub-channel selection functional block." in Jaffe's paragraph [0071] re: FIG. 11 and "The FEC correction processor performs the actual decoding of the selected symbols provided to it by the header processor via a sub-channel." in Jaffe's paragraph [0078] re: FIG. 12).

The same functional block in Jaffe that performs the pre-processing to select the "Selected Sub-channel" does NOT also then perform the actually decoding/processing of that "Selected Sub-channel".

As the Examiner asserts on page 4 of the office action, "Jaffe discloses performing pre-processing functions to a received signal in order to determine such characteristics of the received signal for a subsequent better channel selection process (paragraphs 71-72 and Fig. 1-12, "receiver pre-processing function block and is provided to a PHY subchannel selection")"

While the Examiner asserts that Jaffe teaches and discloses "channel selection process", in contradistinction, the Applicant respectfully points out that the Applicant claims subject matter including at least "each PHY receiver of the plurality of PHY receivers performs pre-processing of the received frame to calculate a confidence level indicating whether the received frame is intended for that PHY receiver" and "the intended PHY receiver processes the received frame".

The Applicant respectfully asserts that pre-processing a signal to select a portion thereof (i.e., the “Selected Sub-channel”) so that only that “Selected Sub-channel” gets decoded/processed in Jaffe is different and distinct from the Applicant’s claimed subject matter.

The Applicant respectfully asserts that Shpak, Vaisanen, Gorday, and Jaffe, when considered individually or together, fails to teach and disclose the subject matter as claimed by the Applicant in these claims.

In view of at least these comments made above, the Applicant respectfully believes that these independent claims rejected above are patentable over these cited references.

The Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter as claimed in allowable independent claims, respectively, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejections of these claims.

“5. Claims 8, 10, 13, 25, 30, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (US 2004/0162037 A1), in view of Jaffe et al (US 2003/0231720 A1), in view of Vaisanen et al (US 2004/0192222 A1) and further in view of Gorday et al (US 2004/0203836 A1) and further in view of well known prior art (MPEP 2144.03).” (office action, Part of Paper No./Mail Date 20080901, p. 7)

The Applicant respectfully traverses.

The comments made above with respect to Shpak, Vaisanen, Gorday, and Jaffe are also applicable here.

The Applicant respectfully believes that the inclusion of the Examiner’s cited “well known prior art (MPEP 2144.03)” does not overcome the deficiencies of Shpak, Vaisanen, Gorday, and Jaffe with respect to independent claims 1, 23, and 28.

The Applicant respectfully believes that independent claims 1, 23, and 28 are allowable over Shpak in view of Jaffe, further in view of Vaisanen and still further in view of Gorday and further still in view of the Examiner’s cited “well known prior art (MPEP 2144.03)”.

The Applicant respectfully asserts that Shpak, Vaisanen, Gorday, and Jaffe, and the Examiner's cited "well known prior art (MPEP 2144.03)", when considered individually or together, fails to teach and disclose the subject matter as claimed by the Applicant in these claims.

The Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter as claimed in allowable independent claims, respectively, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejections of these claims.

"6. Claims 4-5, 26, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (US 2004/0162037 A1) in view of Jaffe et al (US 2003/0231720 A1), further in view of Vaisanen et al (US 2004/0192222 A1) and still further in view of Gorday et al (US 200410203836 A1) and further still in view of Rajamani et al (US 2004/0214539 A1)." (office action, Part of Paper No./Mail Date 20080901, p. 10)

The Applicant respectfully traverses.

The comments made above with respect to Shpak, Vaisanen, Gorday, and Jaffe are also applicable here.

The Applicant respectfully believes that the inclusion of Rajamani does not overcome the deficiencies of Shpak, Vaisanen, Gorday, and Jaffe with respect to independent claims 1, 23, and 28.

The Applicant respectfully believes that independent claims 1, 23, and 28 are allowable over Shpak in view of Jaffe, further in view of Vaisanen and still further in view of Gorday and further still in view of Rajamani.

The Applicant respectfully asserts that Shpak, Vaisanen, Gorday, Jaffe, and Rajamani, when considered individually or together, fails to teach and disclose the subject matter as claimed by the Applicant in these claims.

The Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter as claimed in allowable independent claims, respectively, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejections of these claims.

Allowable Subject Matter

The Examiner asserts:

“7. Claim 6, 7, 11, 12 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 64-80 are allowed.” (office action, Part of Paper No./Mail Date 20080901, p. 11)

The Applicant respectfully traverses the objections to claims 6, 7, 11, 12 and 33.

In view of at least the comments submitted herewith, the Applicant respectfully believes that independent claims 1 and 28 are allowable.

The Applicant respectfully believes that dependent claims 6, 7, 11, 12 and 33, being further limitations of the subject matter as claimed in allowable independent claims, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the objections to these claims.

The Applicant respectfully agrees with the Examiner that claims 64-80 are allowable.

The Applicant respectfully believes that claims 1-13, 23-38, and 64-80 are in condition for allowance and respectfully requests that they be passed to allowance.

The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present U.S. utility patent application.

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